

REMARKS

Claims 1-5 are pending in the present application. Claims 1 and 2 have been amended as a result of this response. Applicants respectfully submit that independent claims 1 and 2 and dependent claims 3-5 stand in condition for allowance. No claims have been canceled and no new claims have been added.

Claim Rejections Under 35 U.S.C. § 102(a) - Tanimoto

Claims 1-4 were rejected under 35 U.S.C. § 102(a) as being anticipated by Tanimoto et al. (U.S. Patent No. 6,698,217, Tanimoto '217). This rejection is respectfully traversed.

Tanimoto '217 discloses a refrigeration apparatus which can continue to operate as it is without inducing any degradation of performance of a compressor when one of multiple compressors is broken down. Specifically, the refrigeration apparatus includes a plurality of compressors connected with each other. When a breakdown detecting device detects breakdown of one of the compressors, the refrigeration operation is performed by actuating other compressors. However, Tanimoto '217 is not concerned with providing a liquid injection passageway that is connected directly to the oil return passageway.

The present invention seeks to eliminate abnormal noise due to the intermixture of gas refrigerants in the suction pipes of the compressors and more specifically to prevent the occurrence of noise in the part where gas flow tubes join each other. The present invention is to connect the oil returning pipe directly to the liquid injection passageway, but not the suction pipes in order to avoid abnormal noises in the part where the oil returning passageway (21) and the suction pipes join (claim 1). The noise problem also occurs when a gas injection passageway is connected to a suction pipe.

In the Office Action of October 9, 2007, the Examiner asserts that the low pressure gas pipe (15) of Tanimoto '217 is the gas injection passageway as claimed in the present invention since the low pressure gas pipe (15) is connected to the suction side of the compressors (2A, 2B) and passageways for gas that is injected into the respective compressors (2A, 2B). Applicants

respectfully disagree. The low pressure gas pipe (15) of Tanimoto '217 is a low pressure side pipe of the main passageway (also 15 in Tanimoto '217) for circulating refrigerant, while the gas injection passageway as claimed in the present invention is a passageway for supplementarily supplying gas refrigerant to the compression mechanism in order to increase the amount of discharge refrigerant. Therefore, the low pressure gas pipe (15) of Tanimoto '217 is not the same as the gas injection passageway as claimed in the present invention.

In Tanimoto '217, a liquid injection pipe (27) is connected to a low pressure side pipe of the main passageway (15) (a low pressure gas pipe) (See column 10, lines 54-55), and an oil returning pipe (31) is connected to a suction pipe (6a) of the non-inverter compressor (2A). Tanimoto '217 fails to provide a gas injection passageway as claimed in the present invention. Thus, Tanimoto '217 fails to disclose or suggest that an "oil return passageway is directly connected to said liquid injection passageway" (claim 1 of the present invention)

Thus, Tanimoto '217 does not disclose or suggest "a liquid injection passageway through which liquid refrigerant is injected into the suction side of said compressor, wherein said *oil* return passageway is connected directly to said liquid injection passageway in which gas refrigerant in said oil return passageway is mixed with said liquid refrigerant prior to injecting into the suction side of said compressors" as recited in the independent claim 1 of the present invention.

Similarly, Tanimoto '217 does not disclose or suggest "a liquid injection passageway through which liquid refrigerant is injected into the suction side of said compressors, wherein said *gas* injection passageway is connected directly to said liquid injection passageway in which gas refrigerant in said gas injection passageway is mixed with said liquid refrigerant prior to injecting into the suction side of said compressors" as recited in the independent claim 2 of the present invention.

In view of the above remarks regarding independent claims 1 and 2 it is respectfully submitted that Tanimoto '217 does not anticipate the present claimed invention as claimed in

independent claims 1 and 2. As claims 3 and 4 are dependent on independent claims 1 and 2, it is respectfully submitted that claims 3 and 4 are patentable for the same reasons as discussed above in regards to independent claims 1 and 2. Consequently, it is respectfully requested that the rejection of claims 1-4 under 35 USC 102(a) be withdrawn.

Claim Rejections Under 35 U.S.C. § 103(A)

Claim 5 was rejected under 35 U.S.C. § 103(a) as being anticipated by Tanimoto et al. (U.S. Patent No. 6,698,217, Tanimoto '217) in view of Tanimoto et al. (U.S. Patent Pub No. 2004/0112082, Tanimoto '082). This rejection is respectfully traversed.

Tanimoto '082 does not remedy the noted deficiencies of Tanimoto '217. Tanimoto '082 is only relied upon to teach dependent claim features. This reliance on Tanimoto '082 fails to make up for the deficiencies of Tanimoto '217 discussed above with respect to independent claims 1 and 2. Therefore, the asserted combination of Tanimoto '217 and Tanimoto '082 (assuming these references may be combined, which Applicant does not admit) fails to establish prima facie obviousness of any pending claim.

Applicant submits that claim 5 is allowable at least by virtue of their dependency on independent claims 1 and 2. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

CONCLUSION

In view of the above remarks, it is believed that claims are allowable.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact D. Richard Anderson, Reg. No. 40, 439 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

Application No. 10/509,117
Amendment dated January 9, 2008
Reply to Office Action of October 9, 2007

Docket No.: 4633-0126PUS1

Dated: January 9, 2008

Respectfully submitted,

By 

D. Richard Anderson

Registration No.: 40,439

BIRCH, STEWART, KOLASCH & BIRCH, LLP

8110 Gatehouse Road

Suite 100 East

P.O. Box 747

Falls Church, Virginia 22040-0747

(703) 205-8000

Attorney for Applicant